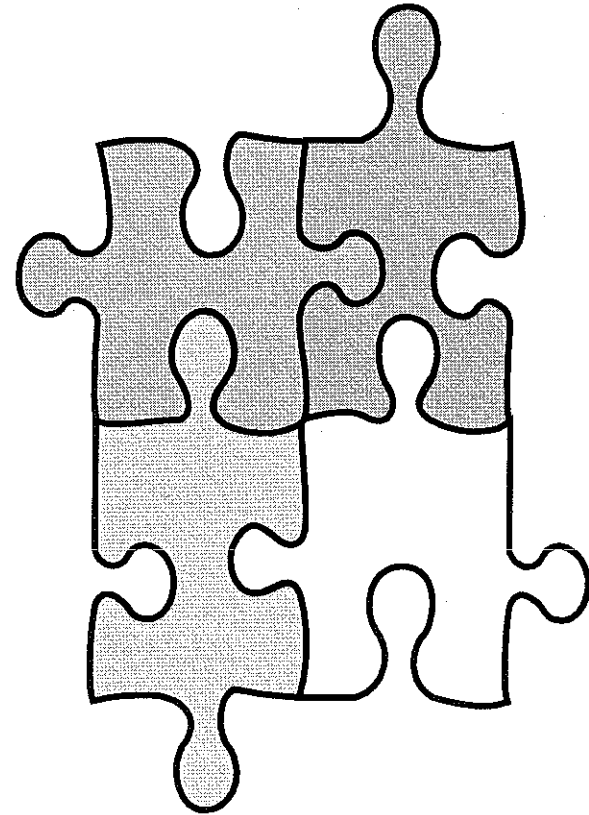


An Emerging View of Environmental Management

EAC Planning Committee

August, 2009



Overview

- Why, How and What
- Exploration of model
- Discussion
- Recommendations

WHY

- Shifts in political, economic, social structure
- Increased difficulty providing timely and effective service through the current model

HOW

- Harness power of partnerships
- Optimize professional judgment and skills

WHAT

- Improve protection of ecological integrity and decrease risk to public health

Multiple party

Municipal
Storm water

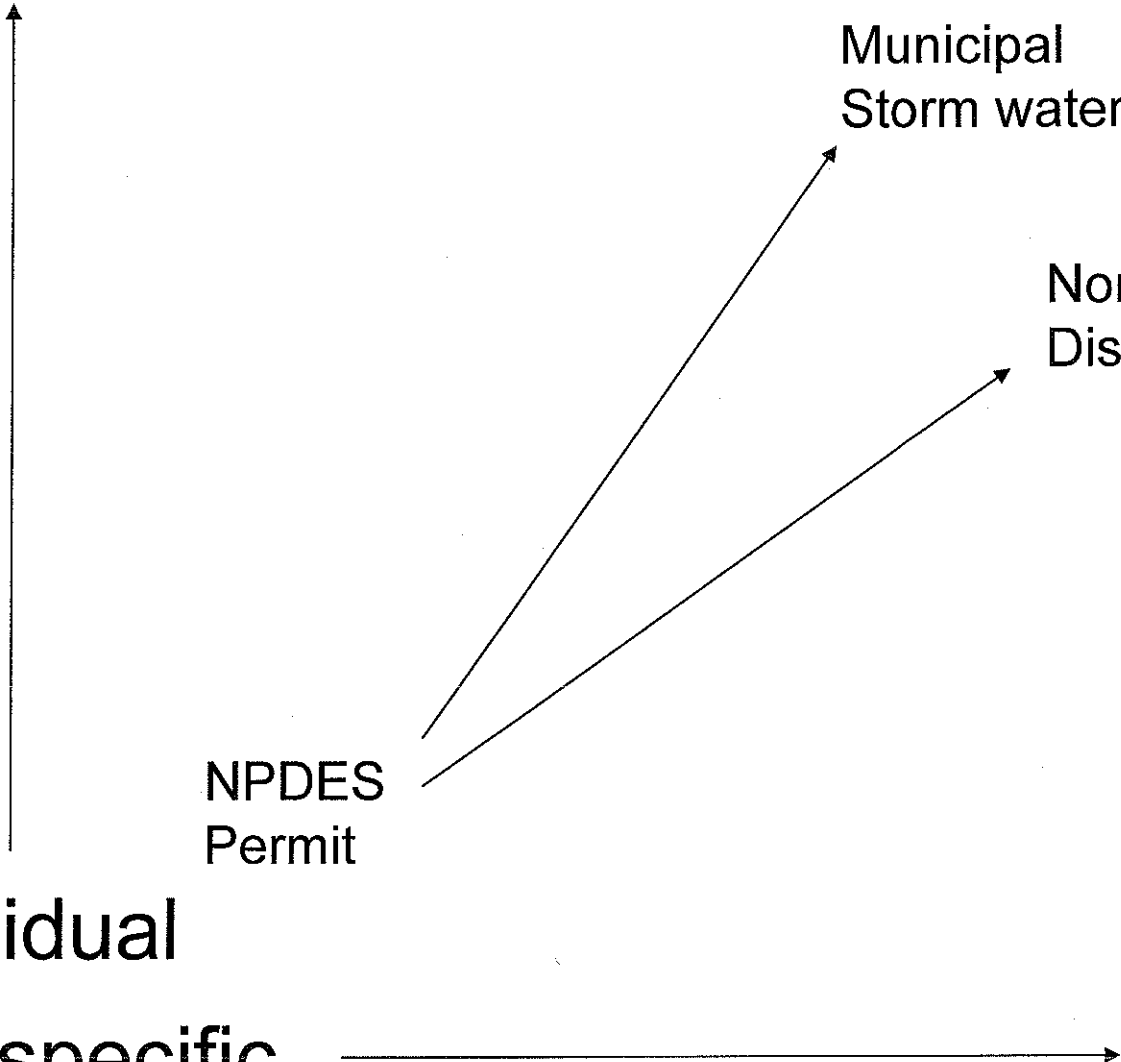
Non-Point
Discharges

NPDES
Permit

Individual

Site-specific

System



Multiple party

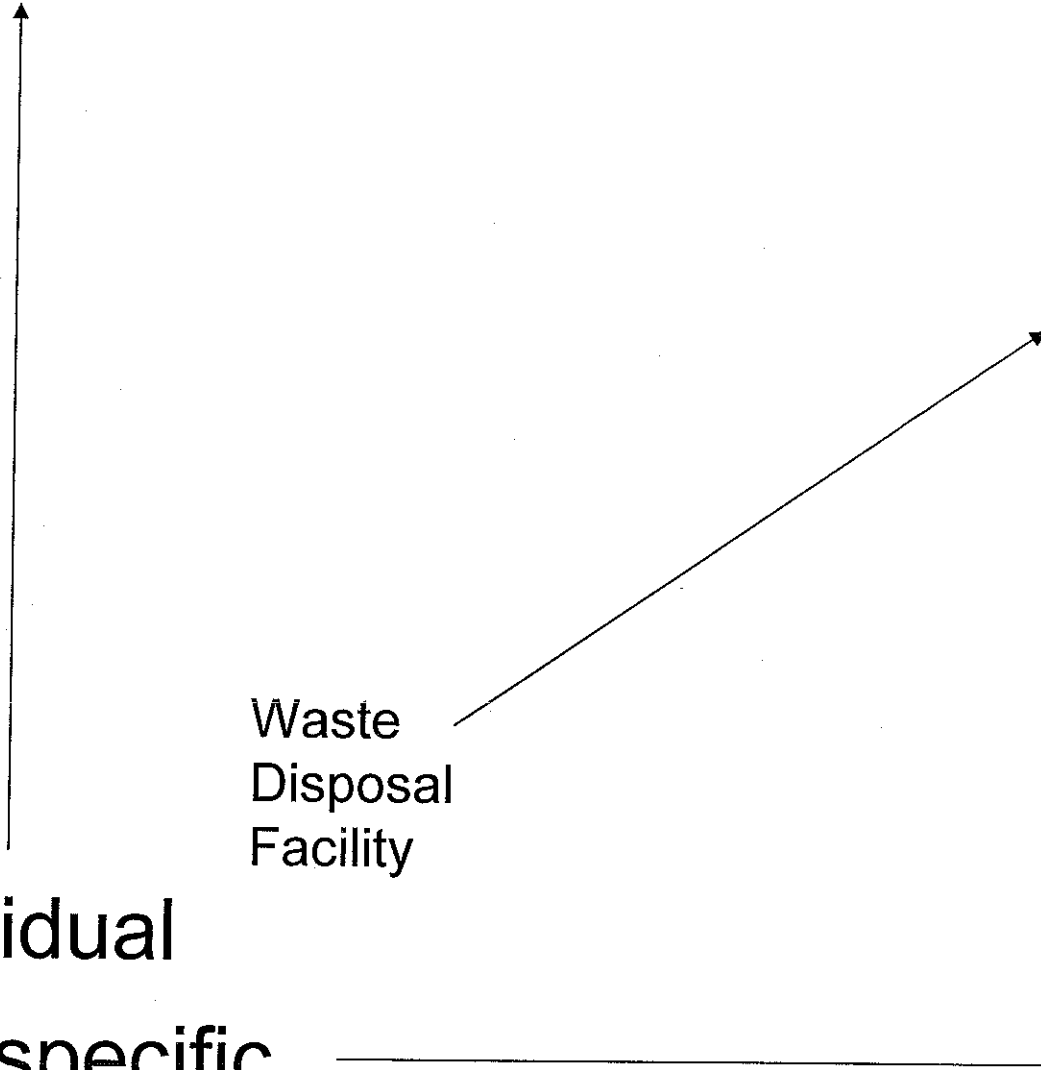
Waste
Utilization

Waste
Disposal
Facility

Individual

Site-specific

System



Multiple party

Brownfield
Redevelopment

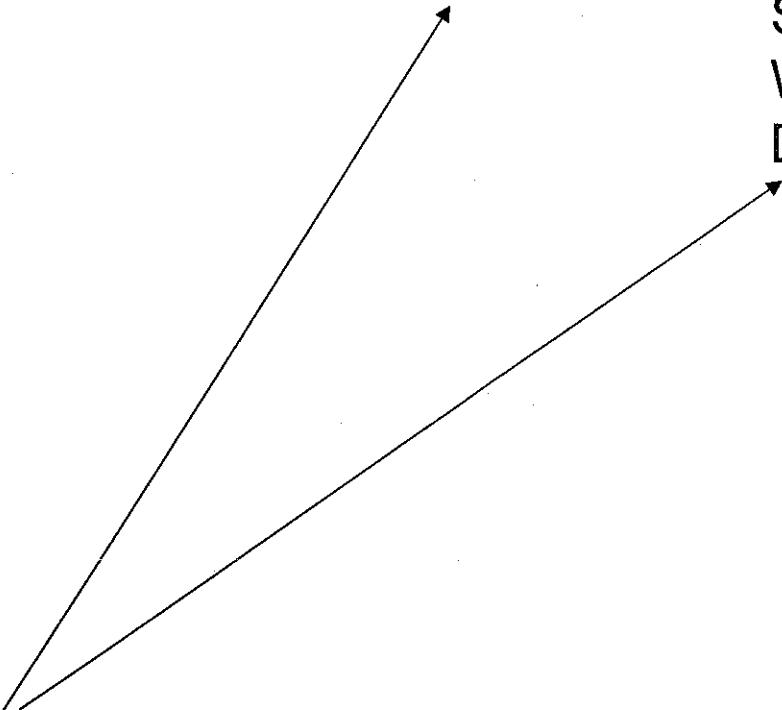
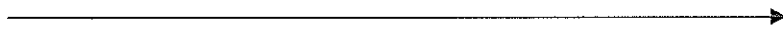
Saginaw
Watershed
Dioxin

Site
remediation

Individual

Site-specific

System



Multiple party

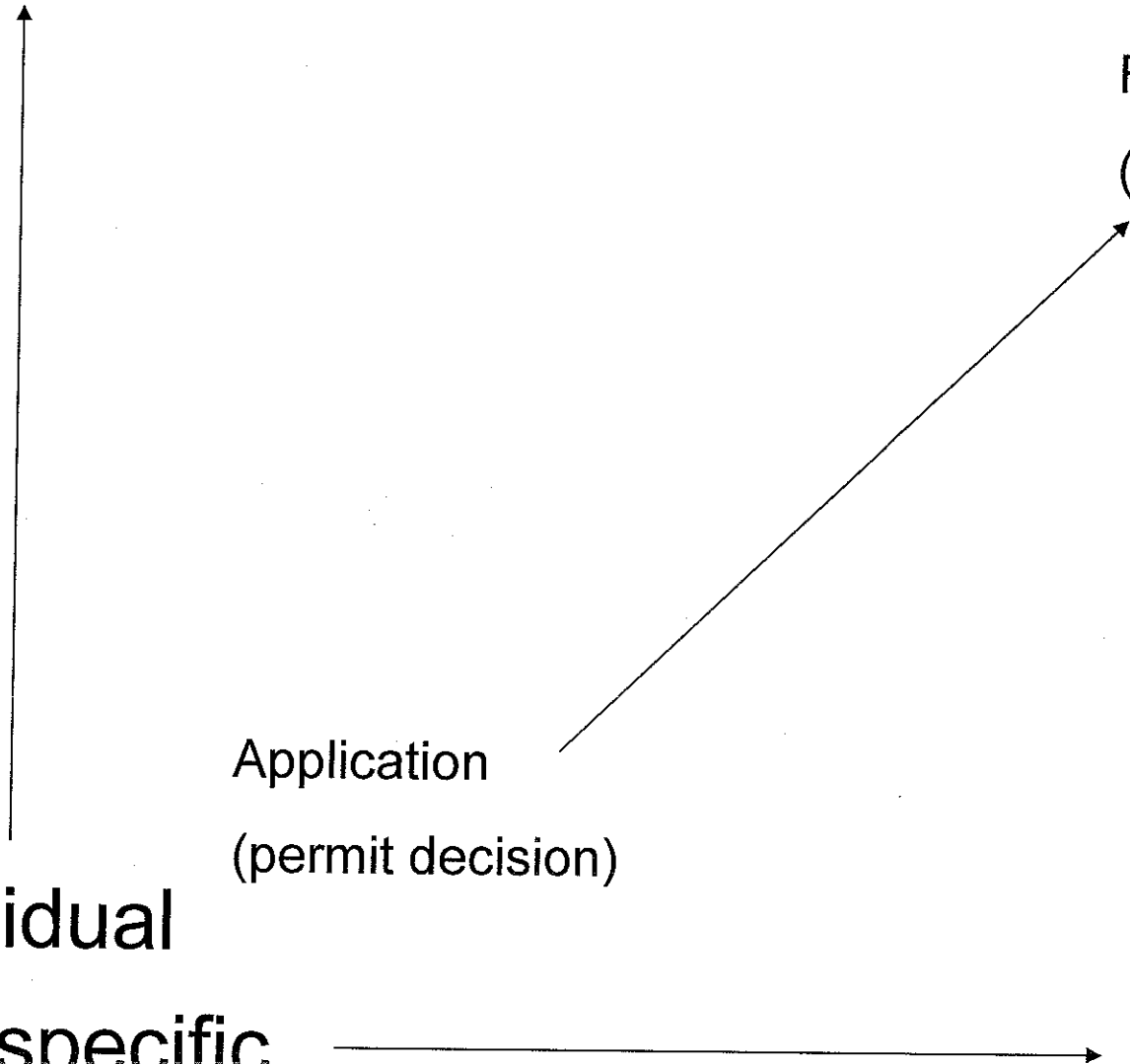
Framework
(rule making)

Application
(permit decision)

Individual

Site-specific

System



Multiple party

Watershed
restoration

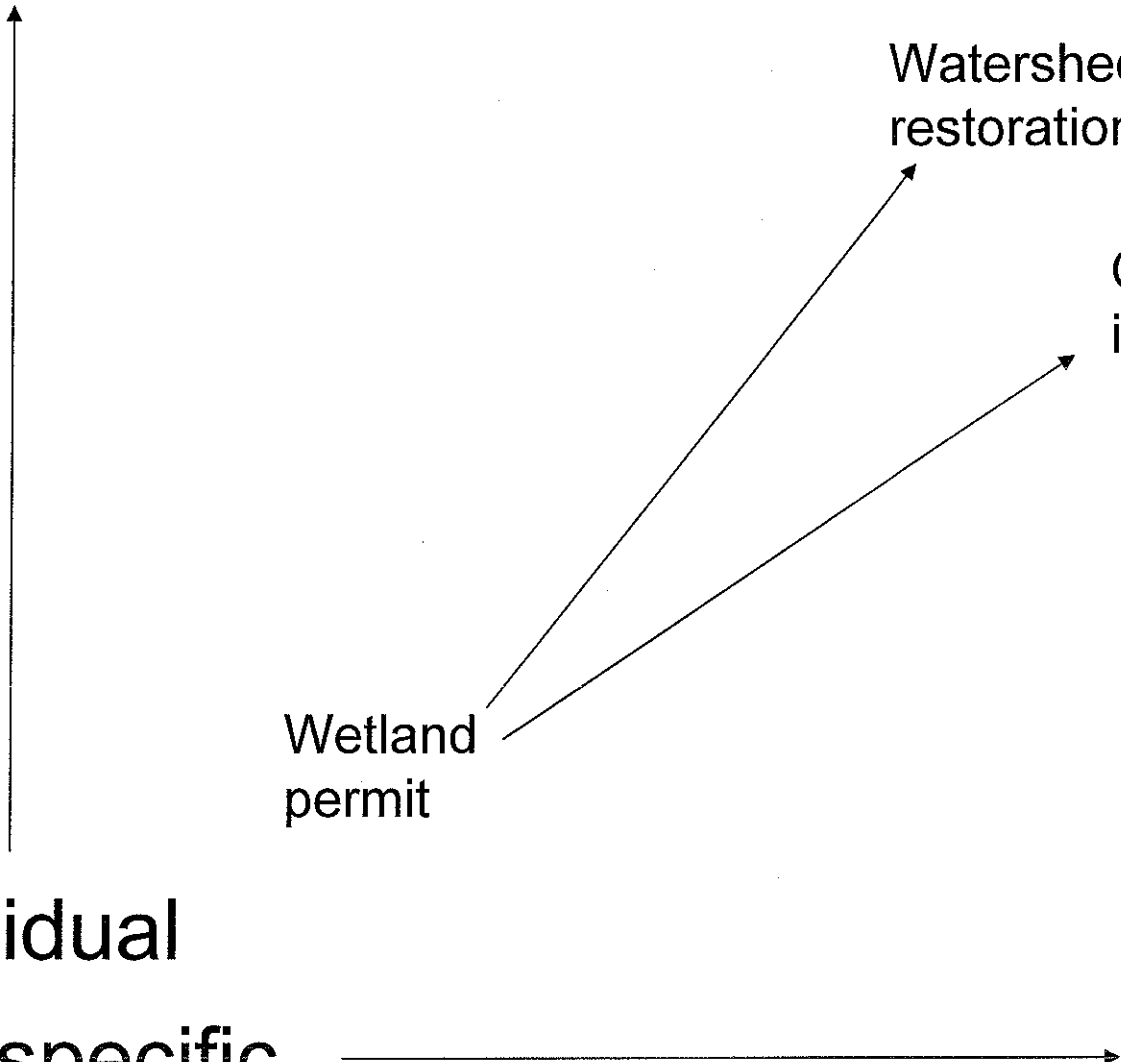
Cumulative
impacts

Wetland
permit

Individual

Site-specific

System



Multiple party

Individual

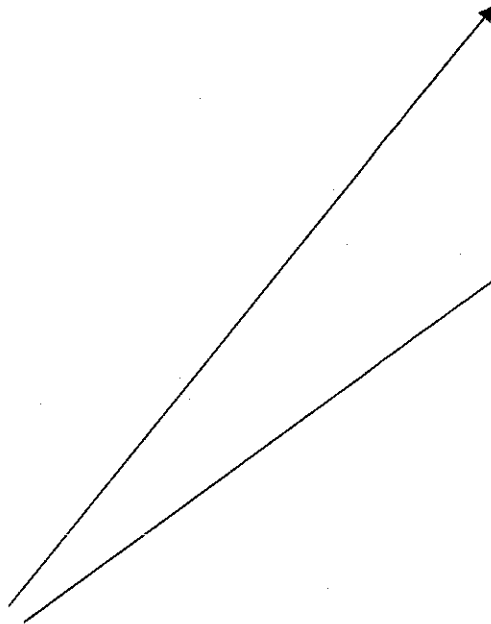
Site-specific

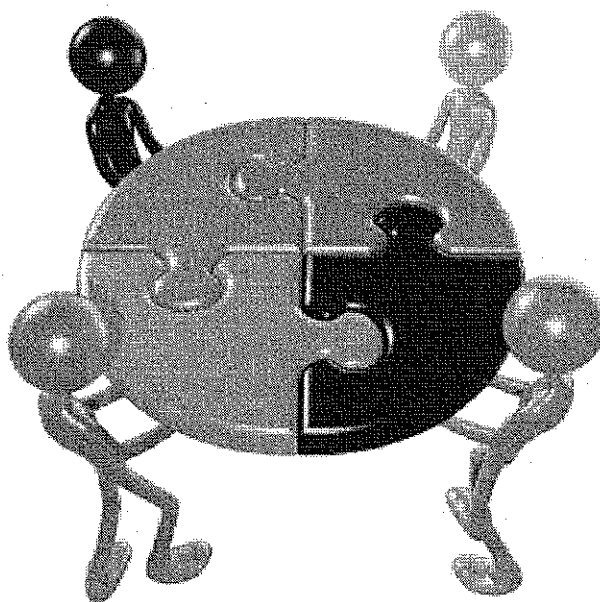
Air Permit
to install

Energy
systems

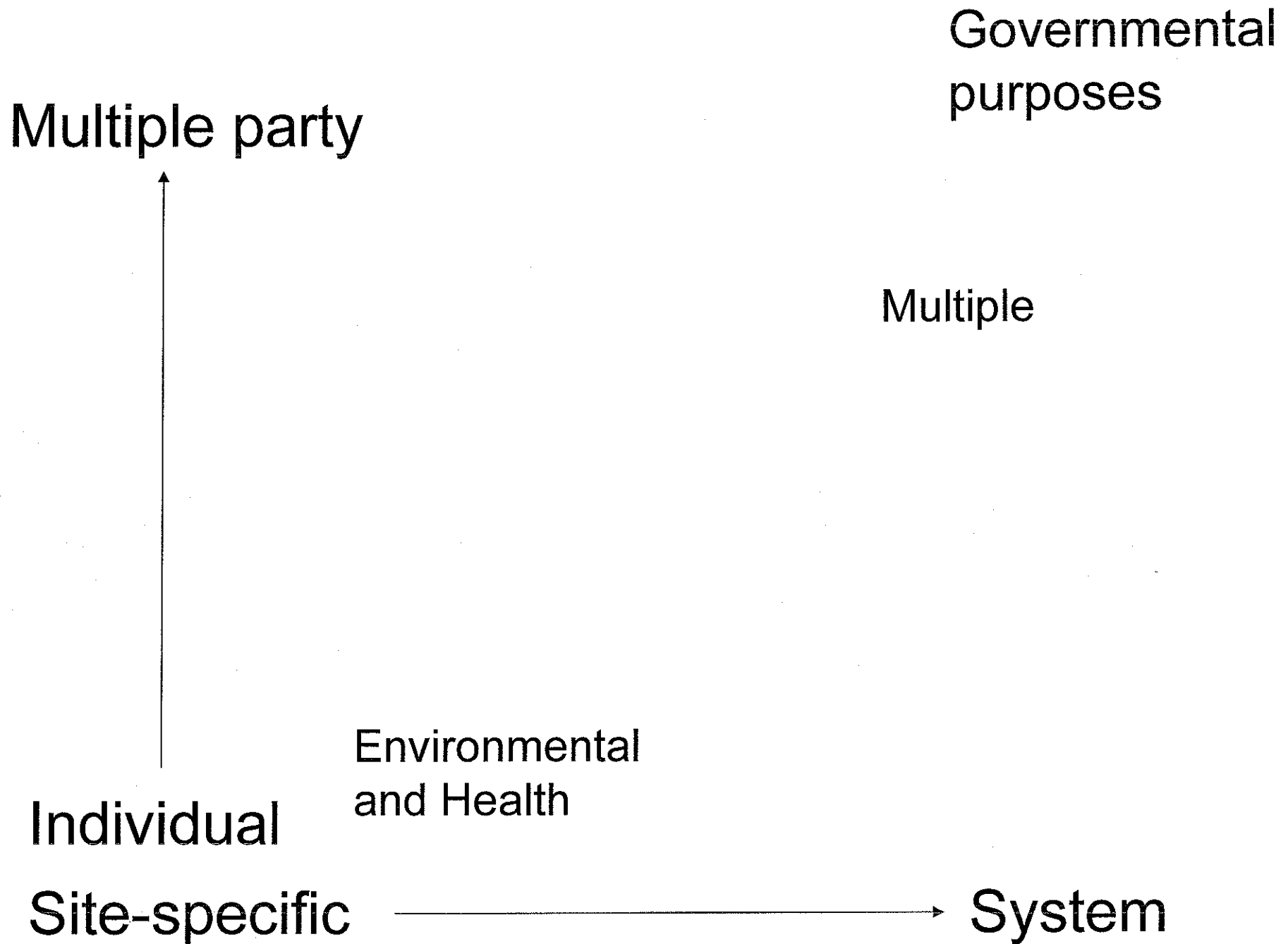
Energy use
patterns

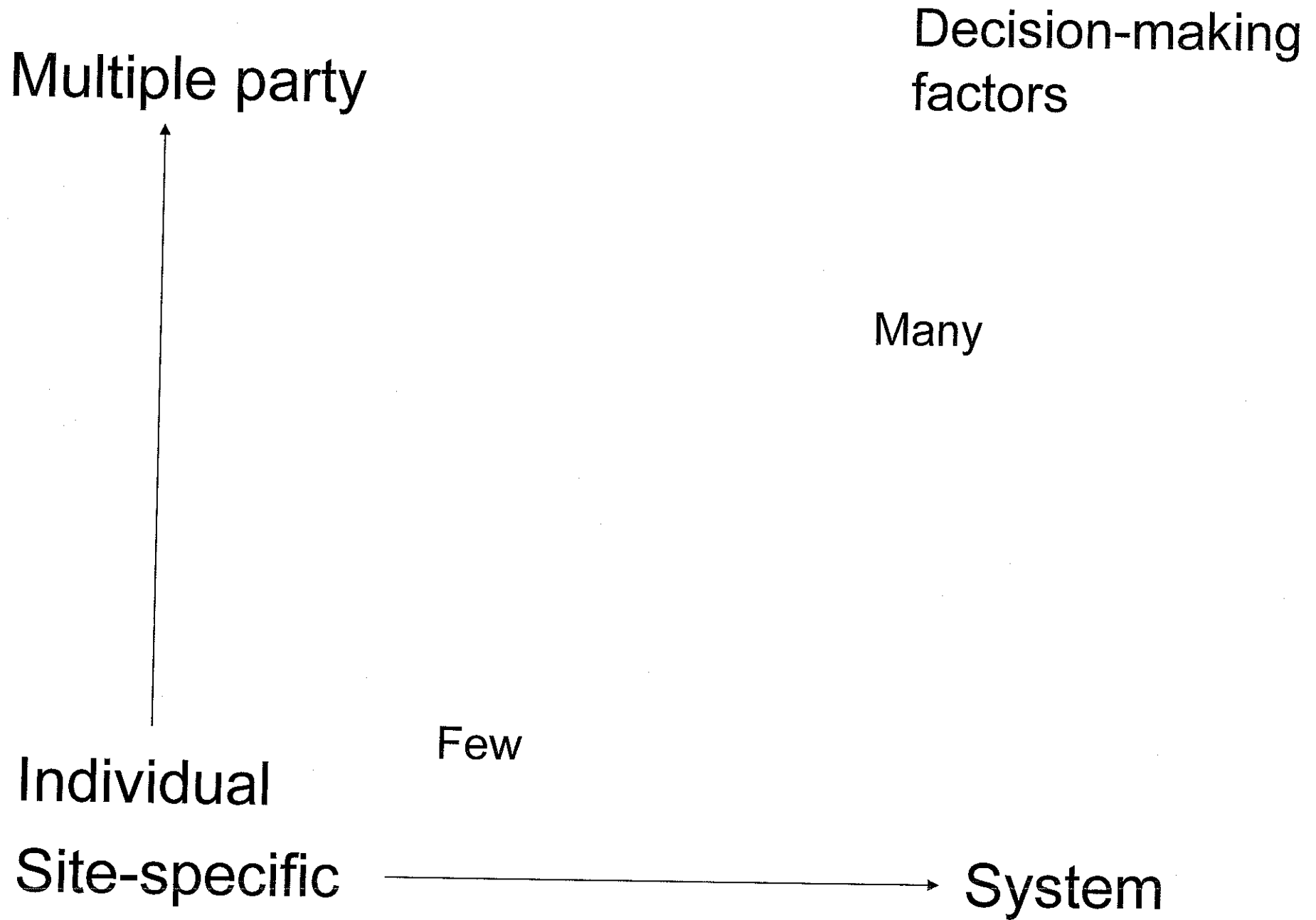
System

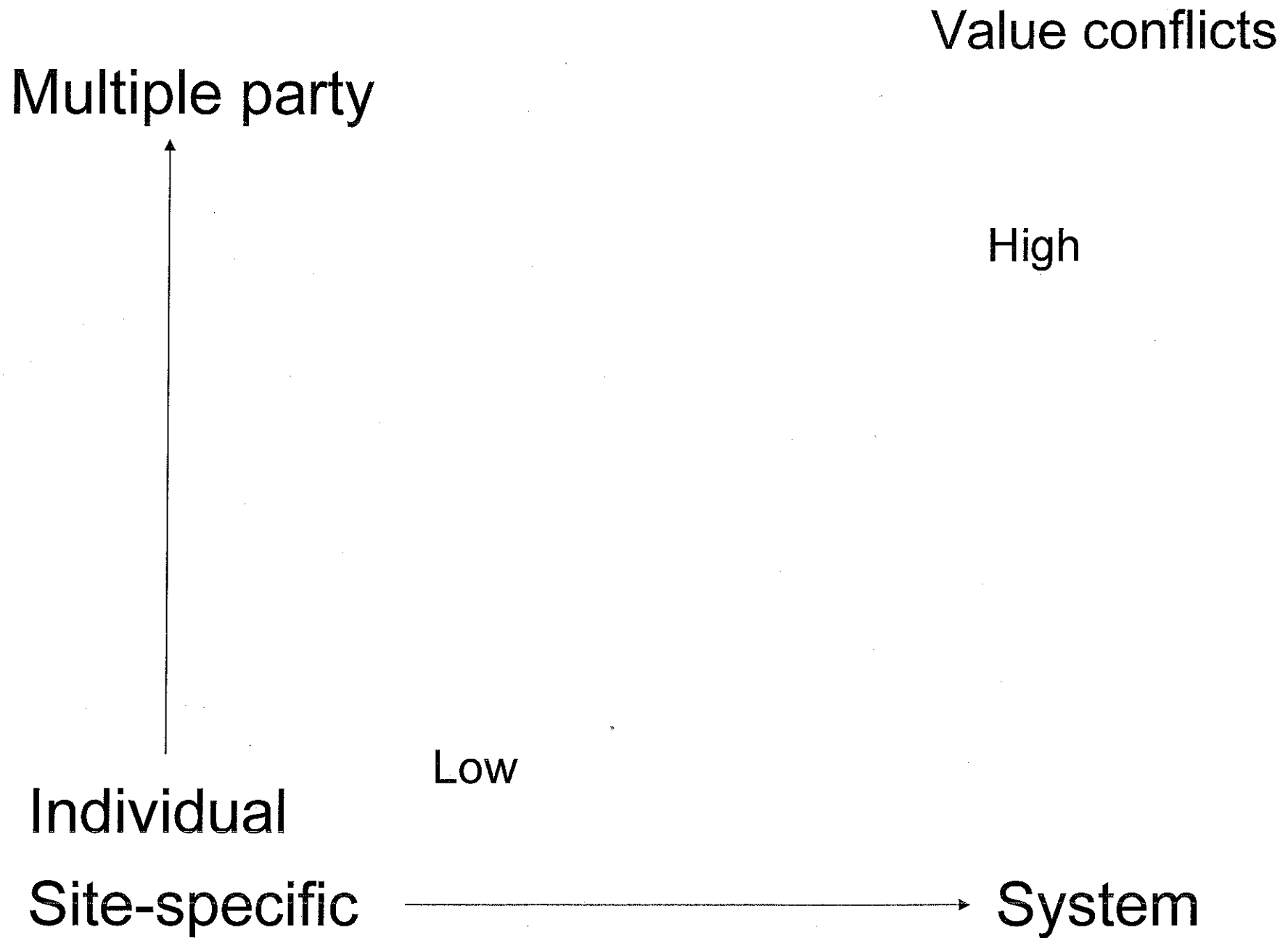




15 Minutes







Multiple party

Risk to ecological
integrity

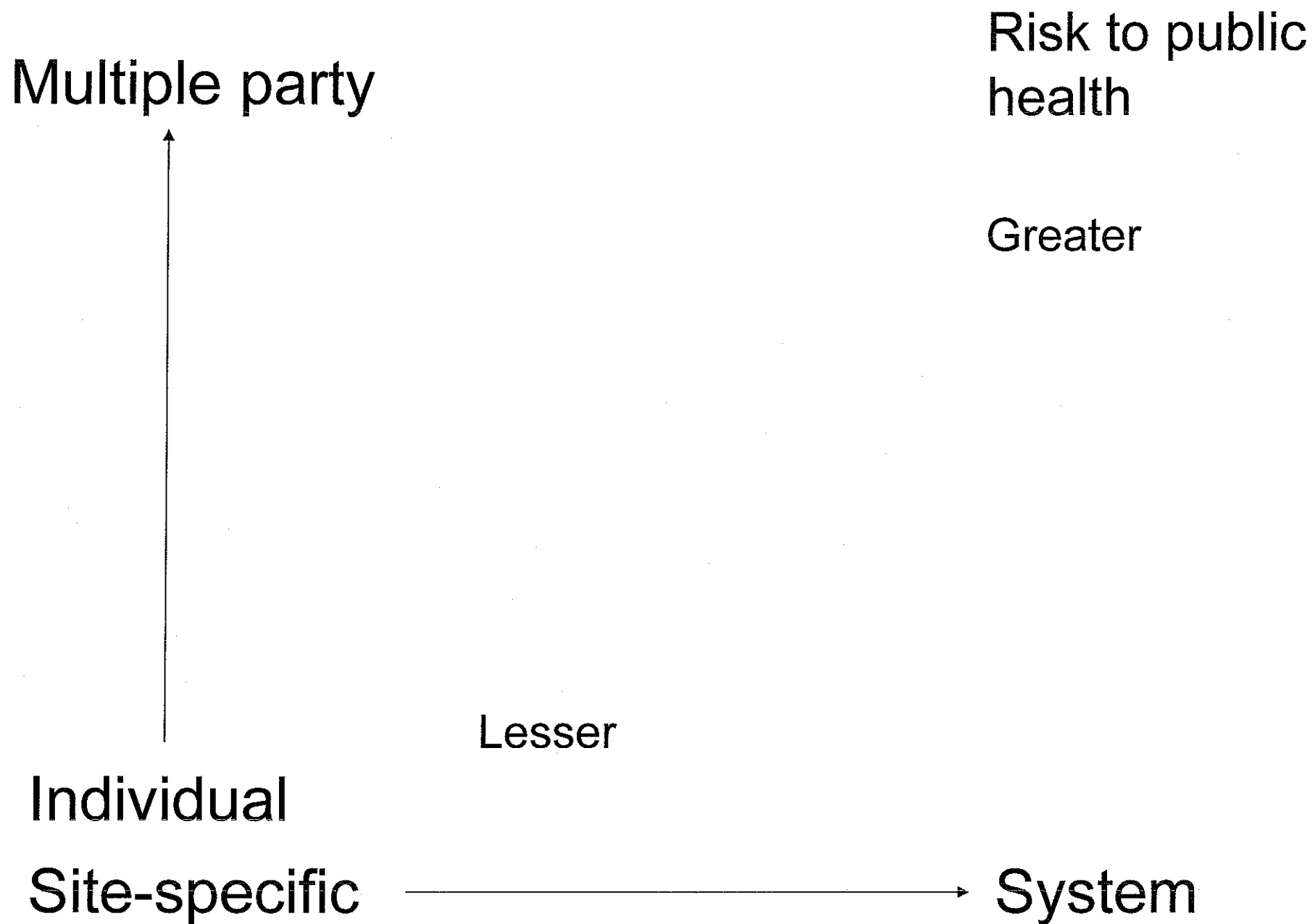
Greater

Individual

Lesser

Site-specific

System



Multiple party

Uncertainty

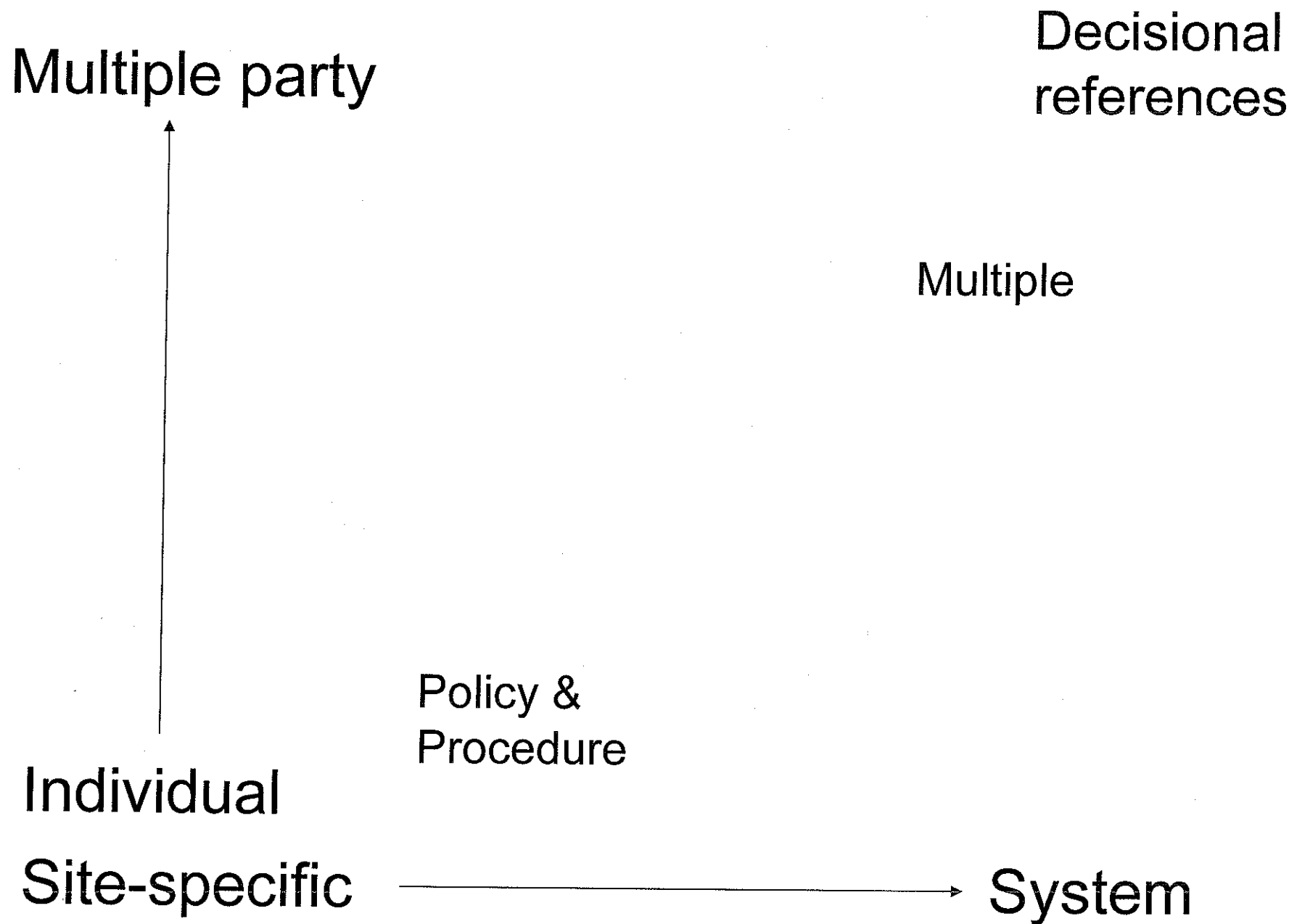
Greater

Lesser

Individual

Site-specific

System



Multiple party

DEQ role

Facilitator & collaborator

Regulatory decision-maker

Individual

Site-specific

System

Multiple party

Performance
measures

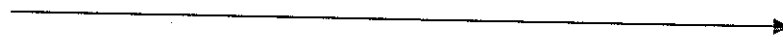
Outcomes

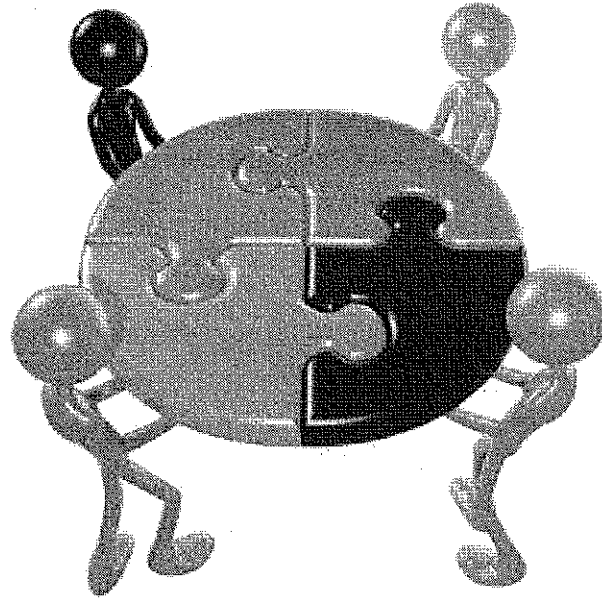
Individual

Outputs

Site-specific

System





15 Minutes

Restructuring Government

- Boxes on the organizational chart
- Fundamental issues
 - What programs (functions and services) should government provide?
 - How to integrate horizontally and vertically?
 - What are the necessary capacities and skills?

Characteristics of
an issue

have an
affect on

Decision-making
context

Gov'l purposes

Decision-making factors

Value conflicts

Decisional references

Uncertainty

Risk

DEQ role

Performance measures

Nature and quality of
information

Who needs to have
and understand info

Decision-making
processes and skills

Decision-making
context

has an
affect on

Structure of
environmental
management
system

Nature and quality of
information

Who needs to have
and understand info

Decision-making
processes and skills

Functions/services

Integration

Skills/capacities

Propositions

- Environmental management will continue to entail site-specific regulatory decisions for individuals.
- But it will be increasingly necessary and important that the environmental management system effectively address multiple party and system-wide issues

- In order to do so, our system of environmental management must accelerate:

Use of more efficient approaches to site-specific decisions

Use of multiple party/system methods

WHY?

- Constraints on governmental resources will require optimum allocation
- Harness economic and community influences for site specific accountability
- Greater impacts at system level
- Synergistic effects of partners
- Value of collaborative decisions
- Ecological integrity and public health

Environmental Management Model

An agency that is capable of providing the necessary functions and services, appropriately integrates with others, and has the skills and capacities to effectively address multiple party and system-wide issues.

Functions and Services

- Authority
- Resources
- Characteristics

Transparent

Nimble

Adaptable

Responsive to priorities

Driven by outcomes

Integrated

- Fluid boundaries
- Shared authority
- Matrix management

Skills and Capacities

- Encourages wise environmental choices
- Comfortable with
 - Complexities
 - Uncertainty and ambiguity
 - Transparency
- Collaborative
- Facilitative
- Communication
- Integrated thinking: See how piece fits puzzle

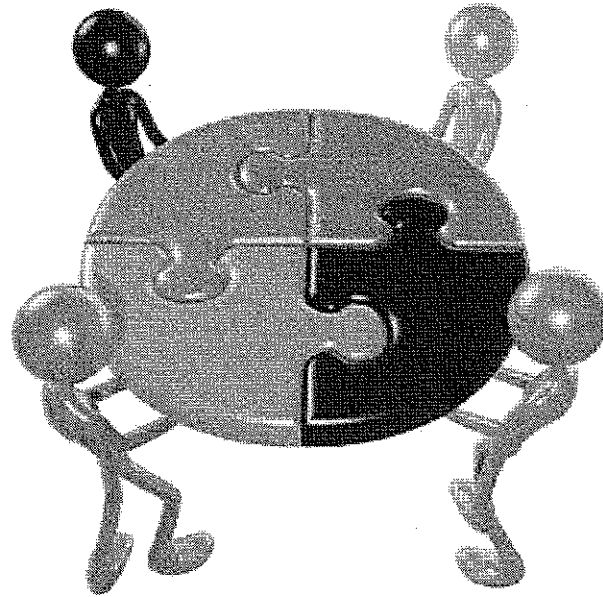
Aside from agreement on the propositions, does any one disagree that we would be more effective if accelerated toward...

Had right authority
and resources

Transparent
Nimble
Adaptable
Responsive to priorities

Fluid boundaries
Shared authority
Matrix management

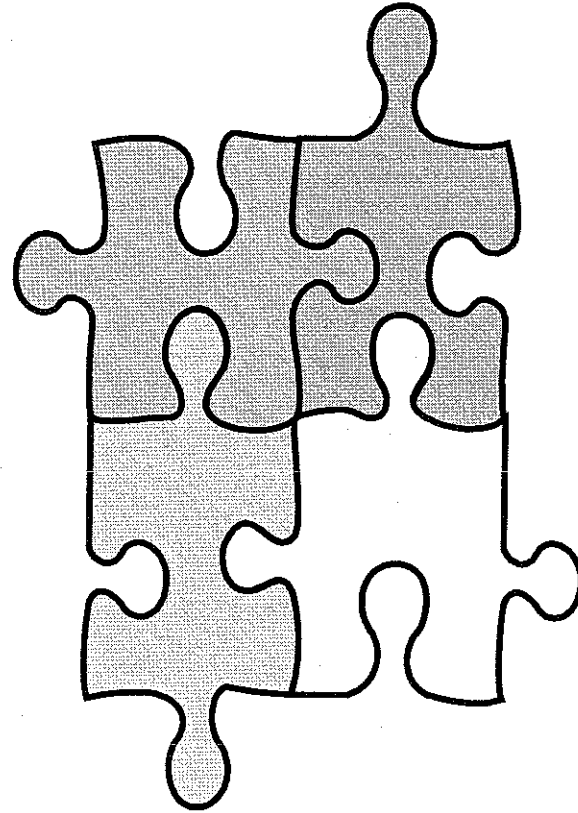
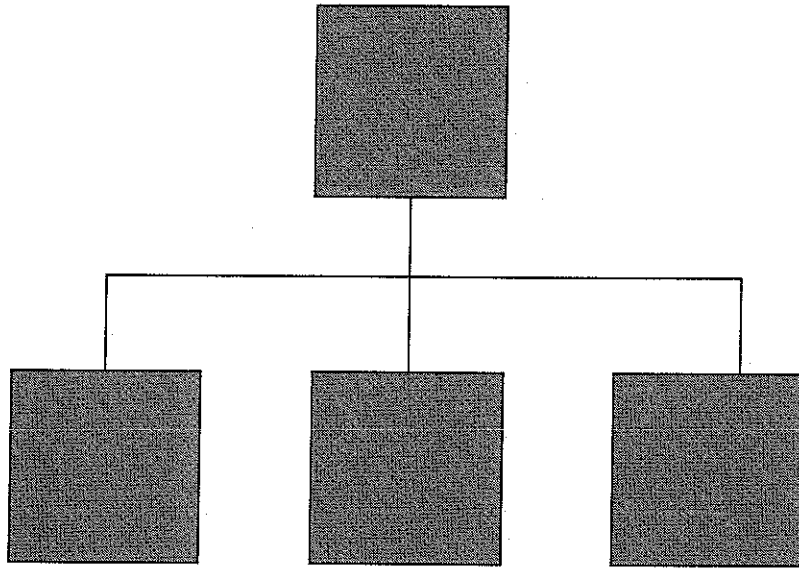
Encouraging wise environmental choices
Comfortable with complexities, uncertainty,
ambiguity, and transparency
Collaborative
Facilitative
Good communicators
Integrated thinkers



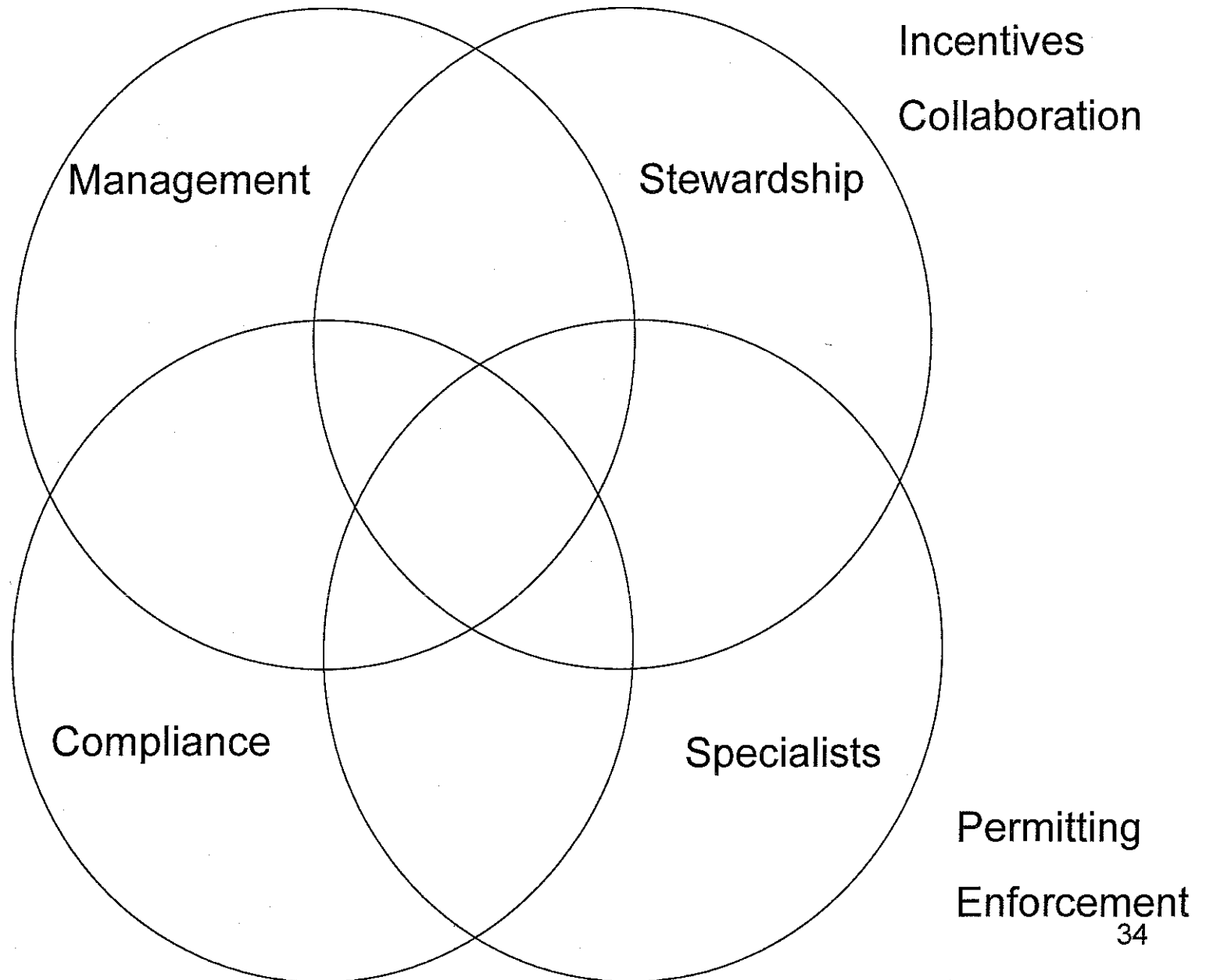
15 Minutes

Organizational Structure

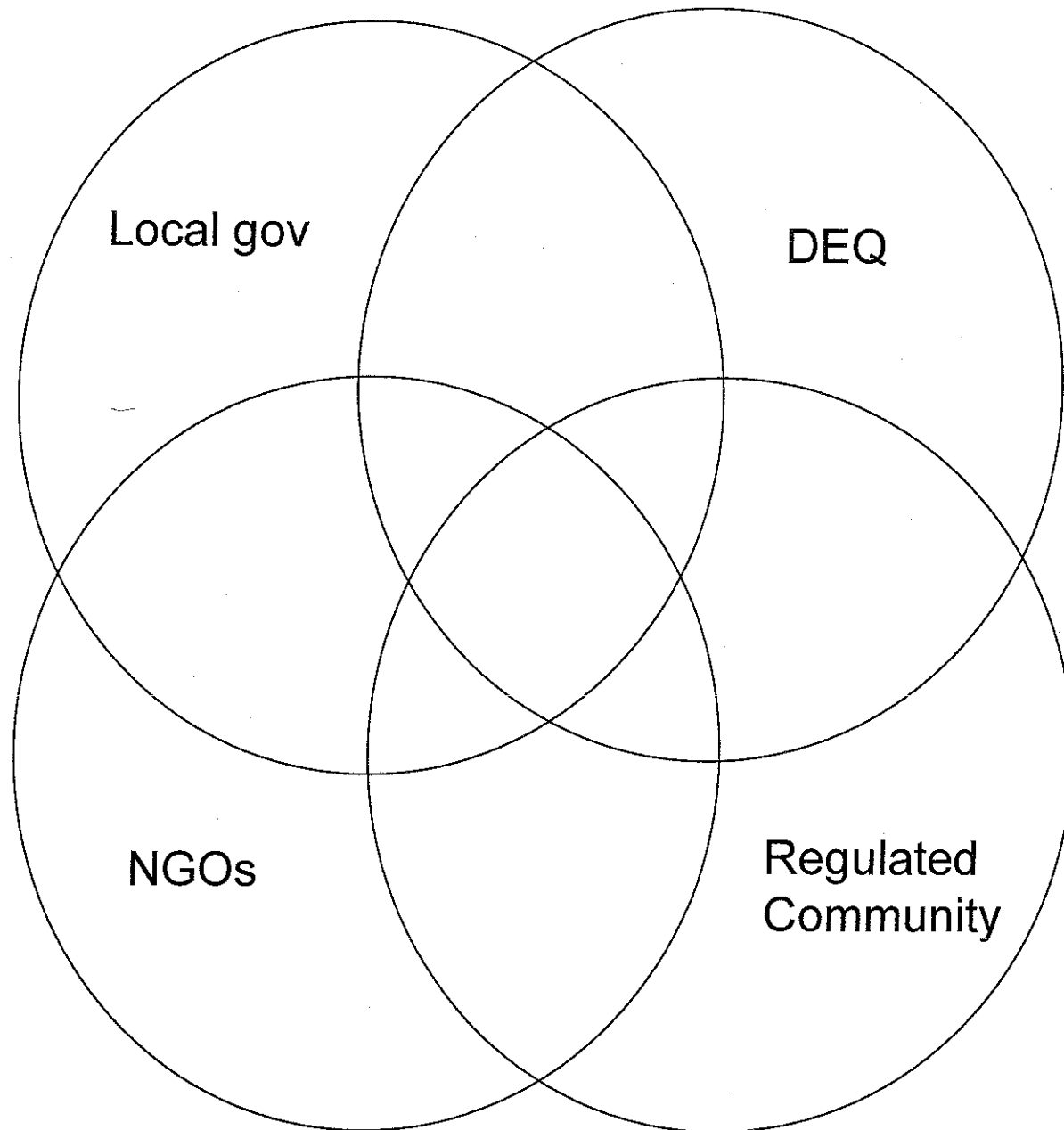
So what does the model look like?



Issue Integration



Project Integration



Examples

- Non-point pollution
- Southeast Michigan air management
- Watershed management

Modeling an Approach: Nonpoint

What we know:

- A small minority of inappropriate behavior in vulnerable places or times is the main source of agro environmental problems.
- Agro-environmental problems do not neatly fall into a single field or farm.
- Farmers are great experimenters, problem solvers, and inventors--if they have an objective they want to obtain or have to obtain, they usually find a cost-effective way to meet that objective

Yet despite this knowledge (and for politically understandable reasons):

- Our voluntary programs do not target to where there is the biggest bang for the taxpayer dollar
- Our programs single out fields and discourage cooperative behavior between farmers
- Technical solutions are presented to farmers as take it or leave it options with no flexibility or experimentation allowed.

A proposed pilot

- Select watersheds of a scale where we could understand and identify causal relationships yet big enough to make a difference in water quality
- Focus/target on where intervention is critical (i.e., where there is inappropriate behavior on sensitive areas)
- Involve farmers and other community members in the selection of outcome based objectives and actions to take to meet objectives

- Reward farmers to work together to solve problems using their creative solutions
- Public agencies would collaborate with farmer groups (but not be drivers of the process); they might facilitate the process
- Public agencies would be responsible for identification of a monitoring process and translating data into farmer friendly terms in a timely manner (e.g. use appropriate metrics and indicators to measure the “intervention’s” progress).

- Farmers would get a proportionate participation incentive that is greater the greater the participation in the watershed
- All farmers would also get a performance incentive based on monitoring data.
- Use an adaptive management approach to revisit the objectives and methods and make adjustments overtime.

Air Quality Planning Paradigm

“Textbook”

- Define problem area
- Define extent of problem
- Inventory sources
- Model until you predict compliance
- Write rules/laws based on model results

Weight of Evidence

- Size up the problem from various angles (model, inventory, monitoring)
- Compare and contrast results
- Focus on attainment
- Seek to optimize technical, social, political

Different Lens.....Different Process

“Textbook”

- There is an answer
- Applying best science gets it
- Models reflect best science
- Tidiness gives us comfort

Weight of Evidence

- Science does not produce single answers to complex problems
- Stimulates curiosity/probing
- Presumes there must be multiple, plausible solutions
- Decides by comparing and contrasting

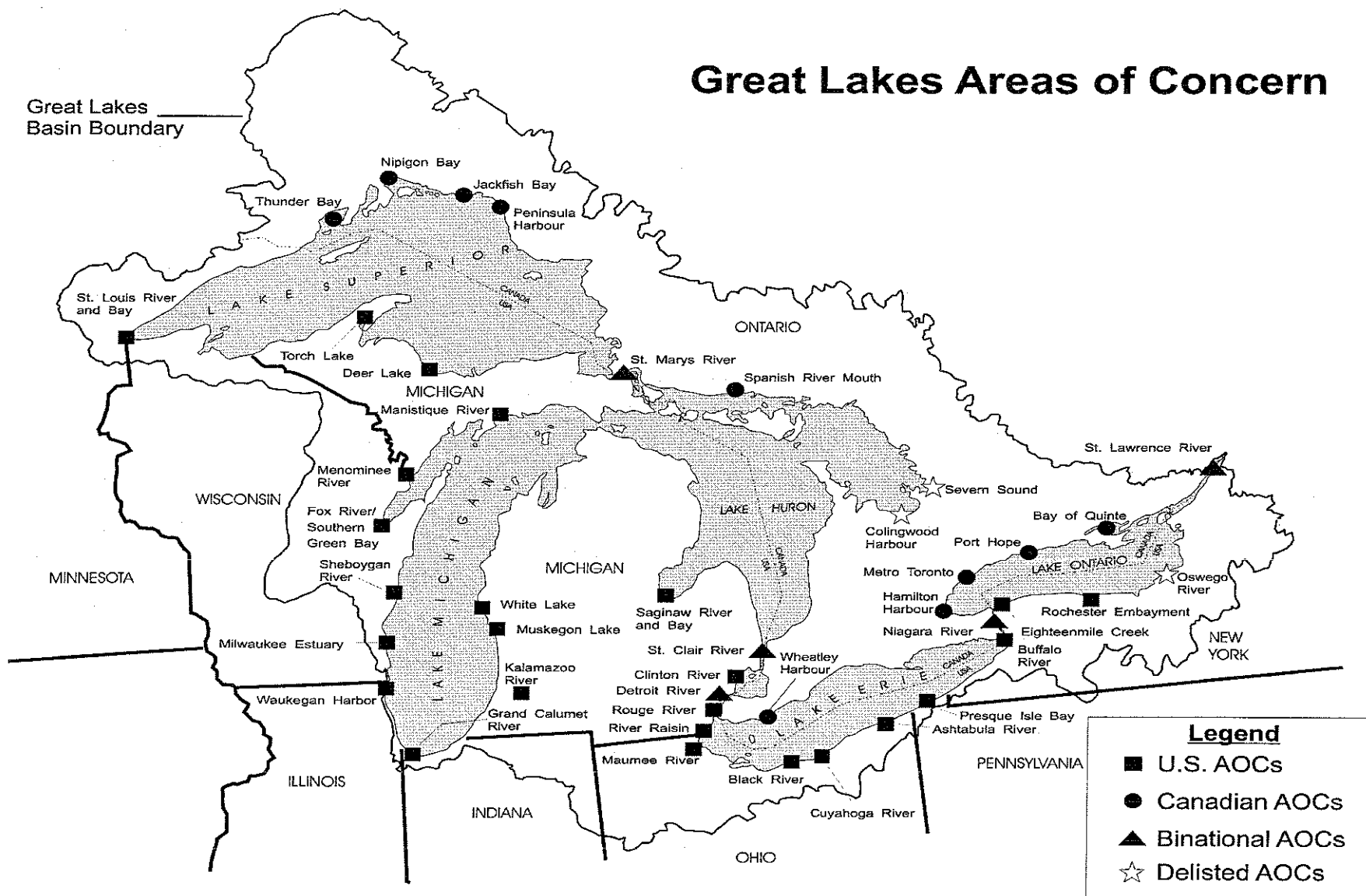
Lesson Learned

Different Lens.....Different Process

Different answers to Critical Questions

- What information do I need?
- Who do I talk to?
- What do I see?
- What's the decision?
- What's the basis of the decision?

Great Lakes Areas of Concern



Real World...and Real World Potential

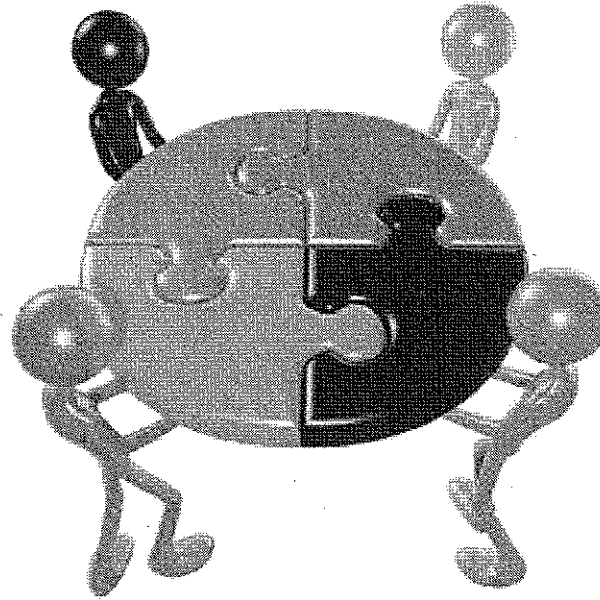
	Current AOC Program	Potential Watershed Program
Purpose	Restore Beneficial Uses as described in the 1987 amendments to the Great Lakes Water Quality Agreement	Restore and maintain ecological integrity in watersheds through a partnership of governmental and private organizations
Geographic Scope	Each AOC has an official boundary which also includes the immediate watershed as a potential source area where remedial actions may need to occur if impacting a beneficial use in the waterbody.	Size of watershed can vary by the "community" involved (i.e., level at which stakeholders create a critical mass), and ecological needs. A watershed effort can be nested within a larger one.

	Currently	Potential Watershed Program
Performance Factors	<p>Restoration criteria focused on beneficial use impairments (BUIs). BUIs established in 1987, focused on worst impacts in Great Lakes.</p> <p>"Restoration" criteria that are realistic, feasible, comprehensive and measurable developed for all AOCs with some local criteria developed to accommodate site specific considerations. Reliance on on existing monitoring programs</p>	<p>Long term goals comprising ecological integrity agreed upon by partners creates basis for choice of indicators.</p> <p>Goals and indicators create basis for agreement on near term objectives and coordinated or individual action by partners in furtherance of those objectives.</p> <p>Monitoring of indicators as necessary.</p> <p>On-going potential to update indicators.</p>

	Currently	Potential Watershed Program
Role of Community	<p>The community, usually through a Public Advisory Council, coordinates support for and communication among the local public and advises state and federal agencies and elected officials on priorities in the AOC.</p>	<p>Collaborative decisions among partners set ecological integrity goals, indicators, near term objectives and some degree of priority.</p> <p>Partners can act jointly or individually on projects in furtherance of near term objectives in line with, but not necessarily constrained by, collaborative priorities.</p> <p>Partners have choice of methods within broad boundaries set collaboratively and by state interests.</p>

	Currently	Potential Watershed Program
DEQ role	<p>The DEQ remains ultimate decision-maker (with some EPA oversight).</p> <p>DEQ also serves a staff-like function to the community (PAC) by acting as a liaison between state, local, and fed govs for each AOC. Staff facilitates, collaborates, coordinates, integrates, and seeks out needed funding, skills, technical expertise, resources to restore beneficial uses.</p>	<p>Acts as a partner in collaborative decision-making .</p> <p>Can undertake own projects as available to a partner.</p> <p>Oversees boundaries limiting activities of partners which are set by state level interest.</p>

	Currently	Potential Watershed Program
Nature of DEQ Integration	<p>AOC liaisons are responsible to coordinate monitoring, technical information, funding needs, reporting, etc. This is done on an ad hoc basis with contacts in existing programs. There are no requirements for staff from other programs to communicate activities within an AOC to the AOC liaison.</p>	<p>Agency coordinates internal actions on projects in furtherance of near term objectives.</p> <p>Other program decisions required to be consistent with watershed objectives and goals.</p>



Until 3:55

In September

- Discussion of model
- Recommendations

Example: Formally allocate regulatory oversight based on distinctions among actors